Author: **Subject: Ammonium perchlorate from a electrolysis of Ammonium chlorate???**

Lapis_infernalis
Harmless

posted on 10-3-2006 at 09:57

Ammonium perchlorate from a electrolysis of Ammonium chlorate???

Posts: 6
Registered: 10-3-2006
Member Is Offline

Mood: No Mood

On the most good german chemistry boards the people become angry when you ask for synthesis of explosives or the starting substances. For this reason I`m here.
My questions are what cathode and anode material I need, what concentration the diluotin need, toxicity, the amperage and if it still too dangerous and I`ll blow myself up when I test this
I can also make NH4ClO4 from NaClO4 (from a NaClO3 electrolysis) and a ammonia diluoton but I need Na+ free NH4ClO4 for blue stars
I hope you can answer my questions.

Sincerely yours Lapis_infernalis

Sorry for my bad grammar

PROFILE FIND icq

PHILOU Zrealone
International Hazard

posted on 10-3-2006 at 10:02

Posts: 2879
Registered: 20-5-2002
Location: Brussel
Member Is Offline

Mood: Bis-diazo-dinitro-hydroquinonic

Uses KClO4 colourles to pale lilas when in a flame.
Other flame colourisers overflow potassium.

NH4ClO3 as a base for NH4ClO4...not safe at all.

NH4ClO3 --> NH4ClO4 + NH4ClO2 + NH4ClO + NO2(-) + NO3(-) +NxOy + N2 + NCl3
Most products of this reaction goes inflame spontaneous...
NH4 chlorate may explode in solution!

PH Z (PHILOU Zrealone)

"Physic is all what never works; Chemistry is all what stinks and explodes!"-"Life that deadly disease, sexually transmitted."(W.Allen)

PROFILE FIND

MadHatter
International Hazard

posted on 10-3-2006 at 10:25

NH4ClO4

Posts: 1051

Continue to make it from NaClO4. Ammonium chlorate is dangerously unstable, known to

Registered: 9-7-2004
Location: North East U.S.
Member Is Offline

Mood: Finally calming down

explode by itself. I understand why you want to get the Na out because of the yellow colour it gives to the flame. You'll have to use fractional crystallization a few times with distilled water to purify the NH4ClO4.

As for anode and cathode materials, that subject has been covered extensively on this site. Do a search on chlorates or perchlorates and you'll find your answer.

Power comes from the barrel of a gun !

PROFILE FIND

Lapis_infernalis
Harmless

posted on 10-3-2006 at 10:30

Posts: 6
Registered: 10-3-2006
Member Is Offline

Mood: No Mood

On a german chemistry board someone had synthesis NaClO4 from NaClO3. He destroy the NaClO3 rests in the NaClO4 with hydrochloric acid. Would it also act with NH4ClO3/NH4ClO2/NH4ClO???
I couldn`t imagine that a NH4ClO3 solution can explode!!!

Sorry for my bad grammar

PROFILE FIND icq

chemoleo
Biochemicus Energeticus

posted on 10-3-2006 at 12:03

Posts: 3005
Registered: 23-7-2003
Location: England Germany
Member Is Offline

Mood: crystalline

No, the point is that UNLIKE NaClO3, the NH4+ in the NH4ClO3 can be oxidised, i.e. to nitric acid and other things, or ammonia. This is why you would be wasting your time trying to oxidise NH4ClO3 with electrolytic methods, as you won't get the correct product. Thus no need speculating on the effect of HCl.
Better to use NaClO3-> NaClO4, and do the metathesis, i.e. with NH4Cl. Trickier, but there's no way around it.

[Edited on 10-3-2006 by chemoleo]

Never Stop to Begin, and Never Begin to Stop...
Tolerance is good. But not with the intolerant! (Wilhelm Busch)

PROFILE FIND

garage chemist
chemical wizard

posted on 10-3-2006 at 12:09

Posts: 1803
Registered: 16-8-2004
Location: Germany
Member Is Offline

Mood: No Mood

NH4ClO3 is explosive on its own. Heating it won't produce perchlorate, but an explosion instead.

To get Ammonium perchlorate, you have to follow the instructions for NaClO4 and add a saturated NH4NO3 solution to the NaClO4 solution. Cooling will precipitate NH4ClO4.
To get the sodium out, it will have to be recrystallized from distilled water several times. Recrystalization is an important process in chemistry, and done in nearly every synthesis. Guess why! It's a simple process for obtaining compounds in a state of purity.

To directly get sodium- free NH4ClO4, perchloric acid is neutralized with ammonia solution. This will produce top quality NH4ClO4, suitable for all purposes.
The perchloric acid can be obtained by distilling KClO4 with H2SO4. This must be done in vacuum, otherwise it will be dangerous.

And if you don't have platinum anode, you can pretty much forget about electrolytic production of perchlorates.
The process with graphite is very tricky, and only one member here has had success with it.

The easiest synthesis for perchlorates is thermal disproportionation of chlorate. Go look it up, it's in the german board too, under "Synthese von Kaliumperchlorat".

[Edited on 10-3-2006 by garage chemist]

PROFILE FIND

DeAdFX
National Hazard
posted on 10-3-2006 at 18:54

Posts: 339
Registered: 1-7-2005
Location: Brothel
Member Is Offline

Mood: @%&$ing hardcore baby

Whats the tolerable amount of organic material when doing the chlorate --(heat)--> Perchlorate ?

Organic material being dust, hair and so on. Tolerable meaning the maximium amount before your kitchen stove is a smoldering crater.

[Edited on 11-3-2006 by DeAdFX]

PROFILE FIND

MadHatter
International Hazard
posted on 10-3-2006 at 19:29

(Per)chlorate

Posts: 1051
Registered: 9-7-2004
Location: North East U.S.
Member Is Offline

Mood: Finally calming down

Ammonium chlorate is so unstable, that in the United States it is FORBIDDEN to be transported
by any means. I don't even want to be near it !

When decomposing chlorate to perchlorate, the amount of tolerable organic or any flammable/ combustible matter is ZERO. One member here already reported that a dumbass heated KClO3 mixed with sucrose in a test tube. The mixture exploded !

Power comes from the barrel of a gun !

PROFILE FIND

Bert
Super Administrator
posted on 12-3-2006 at 15:11

ammoniu8m perchlorate from perchloric acid

Posts: 2724
Registered: 12-3-2004
Member Is Offline

Mood: " I think we are all going to die. I think that love is an illusion. We are flawed, my darling".

Source:The Perchlorate must be free from Chlorate.
A saturated solution of Sodium Perchlorate was poured into two and one half times its volume of pure HCl (density 1.20). After thorough agitation the Sodium Chloride was allowed to settle, the the clear liquid was siphoned off, and the Sodium Chloride drained in a funnel by suction, and washed with a little more acid. The solution containing HCl and Perchloric acid, with a little salt of Na was evaporate until dense white fumes of Perchloric acid began to appear. The liquid was found to be completely free from HCl. At this point the concentration of the Perchloric acid is approx. the density of the dihydrate, about 70%.
The acid above may contain small amounts of NaClO4 which may ppt out of solution. The acid can be distilled (use a Kieldahl bulb) if necessary.
It is not advisable to store Perchloric Acid, make and use as required.

Uses of Perchloric acid
Perchlorates are the salts of Perchloric acid. Most of the Perchlorates can be produced by Perchloric acid and the Chloride or Nitrate of the metal and heating to drive off the HCl or HNO3 formed.
All of the Perchlorates can be formed by reacting the appropriate Hydroxide or Carbonate with the acid. This method of production is not used because of the expense of Perchloric acid compared to Sodium Perchlorate, but it gives very pure Perchlorates.

[Edited on 12-3-2006 by Bert]

PROFILE FIND

Lapis_infernalis
Harmless
posted on 15-3-2006 at 07:15

Posts: 6
Registered: 10-3-2006
Member Is Offline

Mood: No Mood

OK
I`ll made my NH4ClO4 from a NaClO4 solution and NH3.
NaClO4 + NH4OH --> NH4ClO4 + NaOH

But than I need a water-unsoluble compound it can easy made from the sodium hydroxide solution and the ammonium perchlorate must not be changed.

Every sodium salt I know is water soluble.

Sorry for my bad grammar

PROFILE FIND icq

12AX7
Post Harlot

posted on 15-3-2006 at 23:50

Posts: 4803
Registered: 8-3-2005
Location: oscillating
Member Is Offline

Mood: informative

You might add HCl to make NH4Cl and use that solution while hot to precipitate NaCl. When hot, the NH4ClO4 should be more soluble, allowing you to evaporate the solution and remove NaCl in the process. Then you can cool it and precipitate NH4ClO4.

Na2SO4 might also be an option, but I don't remember if it's less soluble than NH4ClO4.

Tim

Seven Transistor Labs LLC http://seventransistorlabs.com/
Electronic Design, from Concept to Layout.
Need engineering assistance? Drop me a message!

PROFILE WWW FIND AIM

MadHatter
International Hazard

posted on 22-3-2006 at 03:21

NH4ClO4

Posts: 1051
Registered: 9-7-2004
Location: North East U.S.
Member Is Offline

Mood: Finally calming down

After filtering you product, you should let it dry then dissolve in anhydrous acetone. NaOH is insoluble in that. Filter or centrifuge - whatever is necessary to keep the NaoH out and then evaporate. Fractional crystallization in H2O will work but keep in mind that NH4ClO4 decomposes above 66C.

[Edited on 2006/3/22 by MadHatter]

Power comes from the barrel of a gun !

PROFILE FIND

SAM4CH
Hazard to Others

posted on 26-3-2006 at 11:55

Posts: 162
Registered: 16-7-2004
Location: TA
Member Is Offline

Mood: PERFECT

Is ammonium perchlorate decomposes in boiling water ">90C degree", I ment if I try to evaporate solution contains NH4ClO4 to get larg yeild is there any problem!!!?

What about purification my ammonium perchlorate from any ammonium chlorate remains in last product if my sodium perchlorate solution was contains small amount of chlorate!?

Sam

PROFILE FIND

MadHatter
International Hazard
★★★★★

posted on 27-3-2006 at 09:17

Chlorate

Posts: 1051
Registered: 9-7-2004
Location: North East U.S.
Member Is Offline

Mood: Finally calming down

It's critical that any traces of sodium chlorate be destroyed before making NH_4ClO_4, otherwise you invite an explosion. As for boiling down a water solution of NH_4ClO_4, I wouldn't know because
I've always used acetone.
You could boil down under vacuum if you can keep it below 66C.

Power comes from the barrel of a gun !

PROFILE FIND

Sciencemadness Discussion Board » Special topics » Energetic Materials » **Ammonium perchlorate from a electrolysis of Ammonium chlorate???**

» Energetic Materials